CLCS " ???? "

30 Months till CLCS Launch

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CLCS Consoles To Be Utilized For Space Station C&T Control Room

CLCS Consoles are a big hit!

The demonstration of the "Leia" console in LCC-X last month impressed the NASA/Boeing team that is developing the Space Station Communications and Tracking (C&T) Control Room; they are placing an order for CLCS enclosures for their entire control room!

The C&T team had
been pursuing commercial consoles, but could not find any off-the-shelf products that provided the required flexibility and aesthetics. When C&T representatives viewed the prototype console showroom earlier this year, they were most impressed with the "Venus" console, and agreed with the design improvements incorporated into the "Leia" console. Basically, the C&T Control room will contain Sun workstations, personal computers and legacy comm and OTV hardware.

The Space Station C&T folks require console delivery to the SSPF during late CY98, which lines up with the initial CLCS console deliveries for HMF and the first phase of OCR-1. In addition, discussions have begun with the Expendable Launch Vehicle (CCAFS) Control Center folks in hangar M. The ELV folks are in need of approximately two dozen new consoles and may also join the CLCS bandwagon.

NASA Service Awards

10 years - Kevin Grant
30 years - Chuck Lostroscio
40 years - Jim Celsor

(Is it just coincidence that they are all in the simulation group ?)

Advanced Projects In CLCS

X-34 Experimental Vehicle: Orbital Sciences Corporation (OSC) with MSFC is building a sub-orbital experimental vehicle, which will be air launched from an L-1011 carrier aircraft. This

unmanned vehicle will be used to demonstrate technologies and processes, which could become an operational, inexpensive, small payload launch vehicle. Initial flights will be from China Lake in mid 1999. In late 1999 or early 2000, a 25 flight test program will begin with launches based from KSC. CLCS has been working with the advanced programs office at KSC under Warren Wiley to propose a variety of launch support alternatives from shared use of an OCR, to a standalone set in a facility at the SLF, to a portable checkout system in a trailer. The data interface is planned to be a single telemetry stream. OSC has shown some interest and has committed to providing a requirement document for CLCS and KSC to assess by the end of June.

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In addition Wyck Hebert has created an impressive 3D-flyover demonstration in LCC-X showing how telemetry data could be used to drive an intuitive flight monitor system during a mission.

Portable Payload Tester: KSC received approval to demonstrate a portable payload tester, which could be used at the home facility for a company or university building an experiment. This Tester would be used to test shuttle interfaces before arriving at KSC to shorten test time and eliminate interface problems. Additional advantages could be realized if the tests run at the experimenter's facility were compatible with the checkout systems used after arrival at KSC. Doug Hammond, CLCS, and Rodney Davis, Command & Control Technologies, Inc are adapting an existing small tester product derived from the Control Monitor Unit (CMU) developed for Space Station Module testing. The CMU, renamed the Command and Control Tool Kit, will be interfaced to a CLCS PCM Gateway as a data source. Displays showing payload-processing functions will demonstrate the capabilities some time in October.

Reusable Launch Vehicle: CLCS is working with a KSC team led by Loren Shriver to propose KSC solutions for the Reusable Launch Vehicle (RLV) under development by Lockheed-Martin. The RLV, called VentureStar™, would be a single-stage-to-orbit vehicle, which launches vertically and lands like an airplane. It would be capable of quick turnaround launches within 7 days after landing. The launch site selection is planned for December 1999. Payload capability would be 25,000 lbs. to the International Space Station, 56,000 lbs. to low earth orbit. KSC and the Air Force 45th Space Wing are supplying information to Spaceport Florida which is constructing the presentation to convince RLV to launch from Florida. CLCS has proposed options similar to the X-34 project: support from an existing OCR, a standalone control room (which could be in the PCC or a facility by the SLF) and a portable capability in a trailer.

Tisha Gets A Scholarship

Tisha Harris, our student working with Jan, recently graduated Titusville High School and received a one-year scholarship to Brevard Community College from Fisher Pontiac-Oldsmobile Inc. This means Tisha can continue to work on CLCS after she starts college. Congratulations, Tisha !!

We're proud of you!!

Aaron Walker Gets Gator Scholarship

Aaron Walker, son of Becky Walker, will be attending the University of Florida on a football scholarship. He will be leaving for Gator Country on June 23rd to attend the Summer B Program and to get involved with the strength and conditioning program. Aaron graduate Astronaut High School this spring with Honors (3.6 GPA). He was recently named the Male Athlete of the Year for Brevard County and Mr. Baseball for Class 4A District 11. He finished 3rd in the State of Florida Class 4A Mr. Baseball. After the Gator Football season is over he will then move over to the baseball diamond to help the Florida Baseball team stay successful.

Congratulations,
Aaron and Becky ! We wish you the best.

Did You See:

a CLCS console representing "building the future" on the cover of the KSC Annual Report for 1997 (and Cover Girl Kristine Kennedy)

the article in the Spaceport News on the most recent CLCS "shipment"

the article in EE Times by Shawn Quinn titled "Web Server Targets Shuttle Operations"

CLCS Human Factors Engineering Gets Some New Additions

The CLCS Human Factors Engineering Team is pleased to welcome two new members to our academic staff, Dr. Susan Murray and Mike Herold.

Susan is an assistant professor at the University of Missouri-Rolla and is participating in the NASA-ASEE Summer Faculty Fellowship Program. She will be staying until August and returning to KSC next year to complete her work for CLCS. Susan will be working on the design and layout of the consoles for the OMR/OSR area and with Roberta Wyrick's OMI conversion team.

Mike is a graduate student and will be a summer intern at Kansas State University for the next ten weeks. At the conclusion of his internship, he will continue his work for CLCS with funding from the NASA Graduate Student Researchers Program. While at KSC he will design and conduct usability tests on some of the new software applications. We will be trying to determine if these improvements, made as a part of the CLCS Project, are functioning as designed.

Welcome to CLCS !

NASA Employee of the Month for June

Oscar Brooks was selected June Employee of the Month for his outstanding contribution to the platform selection effort and continued support establishing an operating system baseline.

Oscar is a native of Havana, Cuba and grew up in Miami. He did his undergraduate work at the University of Miami and his graduate work at Johns Hopkins University. Upon graduation, he worked as an Air Force communications officer stationed at the Pentagon Joint Chief of Staff Office. He also worked on the Underwater Acoustic Processing Project at the Naval Research Center in Washington, DC before coming to NASA in 1988. While at KSC, he has worked on the CORE project, Glass Console Prototype, and several advanced development efforts.

Oscar is currently lead of the CLCS Operating Systems group. His next big challenge is supporting the port from SGI to Sun.

When Oscar is not hard at work on CLCS, he enjoys racquetball, running, coaching soccer, coaching Future Problem Solvers and assisting in the Church Youth Organization. He is married to a saint, Lynne, and has two children, Michelle, 12, and Andrew, 9.

Congratulations, Oscar !!

Independent Verification & Validation

You will see some new faces soon to work IV&V along with Kim Orihuela and Pat Ruddell. A Memorandum of Agreement was signed on May 5 with the NASA Software IV&V Facility in Fairmont, WV for additional support to CLCS. Eventually there will be about 15 people on CLCS with about 9 of them at KSC, the rest in WV. They will perform requirements, design, code, and test analysis of critical system software, analysis of system test plans, procedures and results, and system level examination. Let's welcome them to the Project!

Steve Davis Named Sts-91 Launch Honoree

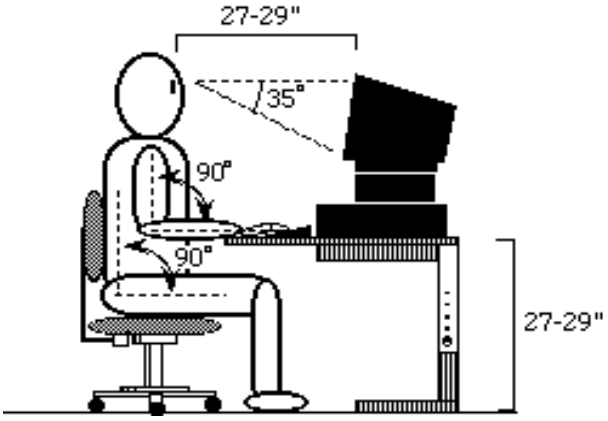
Steve Davis, CLCS Networks Group, recently received the prestigious Space Flight Awareness Award as an STS-91 Launch Honoree. Steve has been receiving the VIP treatment lately including a breakfast with Center Director Roy Bridges, a reception at the Port Canaveral Cruise Terminal the day before launch, VIP viewing of the STS-91 launch and landing and a multitude of goodies from NASA and contractor organizations. In addition he received a behind-the-scenes tour of JSC, hosted by the astronaut corps.

Steve is responsible for the design and implementation of a Reliable Multicast Protocol to support real-time data communications within CLCS. Although this product is critical to the over-all success of CLCS and his schedules are very aggressive, Steve always makes time to help other developers as well as the user

community in a positive, professional manner. Congratulations, Steve !!!

CLCS HFE Team's Top 10 Ergonomic Tips

1. Check your posture! Your feet should be flat on the floor and your back straight.
2. Your joints at a 90 degree angle when you sit at your computer.
3. Arrange your work area so your arms and thighs are parallel to the ground.
4. Rest your hands in your lap often or hang them by your sides.



5. Frequently focus on a distance spot for approximately 20 seconds to rest your eye muscles.
6. The top of your monitor should be level with your eyes.
7. While you type, your wrists and fingers should line up directly with your arms (i.e., not bent).
8. Keep yourself limber; stretch every 30 minutes. (See stretching suggestions on other side.)
9. Hold your mouse gently.
10. Don't pound the keyboard, tap lightly.

For more ergonomic advice, call Linda at 1-7323 or Kristine at 1-7352

I Need A Name

This is the first edition of the CLCS Newsletter. Our plan is to publish this periodically to keep the project team informed. If you have ideas for articles or features, please send them to Tisha Harris .

"CLCS Newsletter" is too boring a title for such a dynamic project. Send your ideas for a title to Tisha and you may soon see it in print !

Test Your Nutritional Knowledge

1. Today _____ % of American are overweight?
   A) 20 % B) 30 % C) 40 % D) 50 %
2. All animal products have fat in them?
   A) True B) False
3. One tablespoon of any oil contains ____ grams of total fat ?
   A) 20 g B) 30 g C) 40 g D) 50 g
4. According to the American Heart Association, ____ % of our daily intake should be fat ?
   A) 20 % B) 30 % C) 40 % D) 50 %
5. When you eat saturated fat your body converts it into fats?
   A) True B) False

Answers:
1.40% 2. True 3. 40 grams 4. 30 % 5. True

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